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ABSTRACT

Reported are four studies of the development of moral autonomy among 720 individuals ranging in age from 12 to 21 years. A questionnaire and a focused interview technique were used to find indications of autonomy in moral judgments and the justifications for these judgments. Tasks elicited moral decisions in the areas of child rearing, schools, work, and political and economic management. The aim of the research program was to extend the analysis of the development of moral autonomy offered by a multidimensional model of the development of moral reasoning. Specific objectives were to examine: (1) developmental change and stability in the content of attitudes about autonomous decision-making; (2) types of justifications offered for choices; and (3) relations between justification types and the content of judgments. Findings revealed the need to add the dimension of individual differences to the single dimension used to describe autonomy-related developmental changes in the content of judgments. Another dimension that indexed individual differences in the use of justification types was identified. It was found that justifications for moral judgments were more theoretical than those obtained in a Kohlberg-style interview. Content-related categorization of justifications revealed a substantial connection between justification and judgment content. (RH)

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Four Studies of Non-Kohlbergian Tasks to Assess the Development of Moral Autonomy During Adolescence

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SUMMARY.

Four studies are reported using both a questionnaire and an interview focussed on the questionnaire items to assess the development of moral autonomy in a total of seven hundred and twenty respondents from 12 to 21 years of age. The studies were intended to extend the analysis of the development of moral autonomy offered by an existing multidimensional model of the development of moral reasoning. Results showed the need to add a dimension of individual differences to the single dimension currently used to describe autonomy-related developmental changes in the content of judgements. A further dimension, indexing individual differences in use of justification types was also identified. It was found that justifications for moral judgements were more theoretical than in a Kohlberg-style interview. A content-related categorisation of justifications revealed a substantial connection between justification and judgement content.

The Assessment of Moral Autonomy Within a Multidimensional Approach to the Development of Moral Reasoning

INTRODUCTION

This paper describes results obtained using a questionnaire and an interview designed to assess the growth of moral autonomy within the framework of the multidimensional model of the development of moral reasoning advanced by Trainer (1982, 1983), Langford and D'Cruz (1989) and Langford and Claydon (1989). This model assumes that development along some dimensions is largely unidirectional, proceeding from simpler and less developed to more complex and more developed (with the usual caveats about regressions). Development along others is multidirectional, involving movement by different individuals in different directions along the dimension (individuation dimensions), or the movement of the same individual in different directions along the dimension at different periods of their development (directional shift dimensions). Some dimensions apply to the development of the content of judgements, while others apply to that of justifications for judgements.

Unidirectional dimensions are: elaboration of thought (the degree to which interviewees can link their justifications into hierarchical 'chains of reasons'- see Trainer, 1982); autonomy (in the content of judgements this means that on some issues young children have a greater tendency to allocate decisions to authority; in justifications it means a shift within those that refer to the beliefs of self or others away from authority

towards self or equals - see Langford and D'Cruz, 1989); intentionality is increasingly used to determine the content of judgements with age (see Piaget, 1932; Lickona, 1976; Karniol, 1978; Keasey, 1978; Tomlinson, 1980; Ferguson and Rule, 1982; Shultz et al., 1986); reification, or the tendency to see social relations as natural rather than as a consequence of agreement, declines with age, influencing the content of some kinds of judgements (see Piaget, 1932; Hess and Torney, 1967; Connell, 1971; Jahoda, 1979, 1981; Tomlinson, 1980).

Individuation dimensions are: ideological individuation, refering to whether or not individuals use some religious justifications; justification preference, the types of justification favoured by an individual; metaethical belief, the tendency to think moral values are objectively given or produced by human decision or agreement (Trainer, 1982, 1983).

Directional shift dimensions are: abstraction, refering to the size of social group to which certain kinds of justification are referred (e.g. those that say certain people believe something to be right, or that an action will benefit certain people); and reflection, refering to the degree of explanatory depth within a justification.

The multidimensional framework was used in preference to those of Piaget or Kohlberg for the following reasons. Studies subsequent to that of Piaget (1932) have failed to confirm his contention that not only are changes in both the content of and justifications for moral judgements unidimensional and unidirectional, but changes in the two areas are roughly synchronised by stage transitions (McRae, 1954; Pittel and Mendelsohn, 1966; Lickona, 1976; Tomlinson, 1980; Langford and D'Cruz, 1989). Colby and Kohlberg's (1987a, b) standard issue scoring is intended to score

justifications only and assumes that their development is unidirectional and unidimensional, with changes in moral autonomy being adequately characterised by a global measure that also indexes shifts in abstraction and reification. Before such an assumption can be adequately tested, measures of these distinct aspects of development need to be devised. Other serious complaints about this and other Kohlbergian scoring methods relate to their lack of face validity and doubt about the claim that interviewees always score at one or two adjacent stages (Simpson, 1974; Hill, 1974; Trainer, 1977; Crittenden, 1978; Siegal, 1980; Cortese, 1984; Gibbs et al., 1982).

The points made in the last paragraph assume that heteronymy-autonomy in moral reasoning refers to two distinct dimensions, one applying to judgements, one to justifications. This needs to be sharply distinguished from the way this dimension is defined, with Kohlberg's blessing, by Tappan et al. (1987) and Schrader et al. (1987). Their definition specifies nine criteria relevant to the dimension and their coding scheme, which scores interviewees as belonging to heteronymous or autonomous types within Kohlberg's stages, uses eight of these, in a way that confounds judgement content and justification content and assumes psychometric consistency between the aspects of each of these that are coded that has not been demonstrated and is a priori unlikely.

The present studies looked at autonomy in the content of and justifications for moral judgements using both a questionnaire and a focussed interview technique, dealing with moral decisions in the areas of child rearing, schools, work and political and economic management. One aim was to examine both developmental changes and developmental stability in

the correlational structure of the content of attitudes to autonomous decision-making. A second was to look at the types of justifications offered for choices in an interview focussing on the control of decision making. A third was to examine relations between justification types and the content of judgements.

STUDY 1

Subjects

These were 240 Australian school and university students between 12 and 21 years of age, each of whom received the questionnaire described in the next section. The school students were selected by their teachers as being in the middle range of ability and came from three high schools and one technical school in the Melbourne metropolitan region. The university students were all students at La Trobe University, Melbourne, who were selected by the wardens of their colleges as being in the middle range of ability, in regard to university students. Eighty were in the range 12-13 years, 80 in the range 15-16 years and 80 in the range 19-21 years. Half at each age range were male and half female.

Questionnaire

This asked the following questions.'Imagine you are a parent. 1) Should your 6 year old child choose what television programmes to watch? Please pick one of the following alternatives. Complete freedom of choice. They should choose their television programmes in consultation with their parents. The choice of television programmes should be made by the parents. 2) Should your 6 year old child be able to choose which school to attend?

Please pick one of the following alternatives. Complete freedom of choice. They should choose their school in consultation with their parents. They should attend the school that their parents decide on. 3) Should your 6 year old child be able to choose to ride a bicycle on the roads ? Please pick one of the following alternatives. Complete freedom of choice. They should decide in consultation with their parents. The decision should be made by their parents. 4) Should your 6 year old child choose what they eat ? Please pick one of the following alternatives. Complete freedom of choice. They should decide this in consulation with their parents. This should be decided by the parents.

'Imagine you are a schoolteacher. 5) Should you allow a 6 year old child to choose what subjects to study? Please pick one of the following. Complete freedom of choice. Freedom to choose in consultation with the teacher. This decision should be taken by the teacher. 6) Should a 6 year old child choose whether they want to work in class or not? Please pick one of the following. Complete freedom of choice. They should make an agreement with the teacher about how much time to work. This decision should be taken by the teacher. 7) Should a 6 year old child be able to choose to distract other children in class? Please pick one of the following. Complete freedom of choice. They should make an agreement with the teacher about the limits of behaviour. This should be decided by the teacher. 8) Should a 6 year old child be able to choose what topics they are going to write about and which books they are going to read at school? Please pick one of the following. Complete freedom of choice. They should choose these things in consultation with the teacher. These decisions should be taken by the teacher.

'Imagine you are a manager in a factory. 9) Should you allow the workers to choose how to organise their work? Please choose one of the following. Complete freedom of choice. They should organise their work in consultation with management. The organisation of work methods is the business of management. 10) Should your workers choose how they meet safety regulations in the workplace? Please choose one of the following. Complete freedom of choice. They should decide how to meet safety regulations in consultation with management. Organisation of safety requirements is a management responsibility. 11) Should your workers decide how to design the products of the factory? Please choose one of the following. Complete freedom to choose designs. Workers should have the right to contribute to design decisions in consultation with management. Design decisions are a management responsibility. 12) Should your workers be entitled to make investment decisions? Please choose one of the following. Complete freedom to make investment decisions. Workers should have the right to contribute to investment decisions in consultation with management. Investment decisions are a management responsibility.

'Imagine you are the Prime Minister of Australia and that you have the power to alter the way in which political decisions are normally taken in this country. 13) Should you allow your cabinet, that is your senior ministers, to take a free vote on all issues of national importance? Please choose one of the following. The ministers should be allowed complete freedom to decide by a majority vote. The ministers should normally be allowed to decide by majority vote but the Prime Minister should have the power to overrule them in unusual cases. The Prime Minister should take all important decisions. 14) Should you attempt to increase the

direct participation of the people in decision making? Please choose one of the following. All important decisions should be referred back to the people through referenda or by some other method that allows everyone to vote on them. Quite a few important decisions should be referred back to the people for direct voting. We should stick to the present system of only occasionally refering decisions to the people for direct voting. 15) Should you change the role of government enterprises in the Australian economy? Please choose one of the following. Some areas at present run by the government should be opened up to private enterprise. We have the right balance at present between private and public enterprise. Some industries at present run by private enterprise should be run by the government. Some industries should be shifted from the government to private enterprise, while others should be shifted from private enterprise to the government. 16) Should the role of federal government, as against that of state government, be increased or decreased? Please choose one of the following. More power should be given to the states to make their own decisions. We have about the right balance between federal and state decision making at present. The federal government should be given more power to make decisions.'

Results and Discussion

The questionnaire asked interviewees to rank each decision as one that should be taken by authority through to one that should be taken by subordinates. A choice favouring subordinates counted as a score of 1, a choice favouring cooperation between subordinates and authority as 2 and a choice favouring authority as 3. The first part of the analysis subjected

these rankings to exploratory principal component analysis, each age group being analysed separately. The procedure adopted for removal of questions from the analysis was that those whose greatest correlation with other items was the lowest were removed until the Kaiser-Meyer-Olkin measure of sampling adequacy was at least .70, which Kaiser (1974) describes as the lower limit of 'middling'. For the 19-21 age group questions 3, 8, 13 and 16 were removed from the analysis due to low intercorrelations with other items (Table 1). The remaining questions yielded a Kaiser-Meyer-Olkin measure of sampling adequacy of .70 and a substantial first component, accounting for 44 percent of sample variation. All questions remaining in the analysis loaded positively on the first component, in the range .43 to .85, except for question 15, which loaded negatively, weighting -.61, and question 14, which loaded less than .3 (see Table 4). Question 15 asked whether the role of government enterprises should be increased or decreased in the Australian economy. Thus respondents who favoured private enterprise tended to favour authority in the home, school and workplace.

- Tables 1-6 -

Results from the 15-16 age group were broadly similar to those from the 19-21 group, except that item 14 on government was also removed from the analysis (Tables 2 and 5). For the 12-13 year group, question 12 was also removed due to poor intercorrelations with other items (Tables 3 and 6). A plot of the total variance accounted for by each component against component number at each age suggested that the scree begins at the second component for all age groups and that only the first should be considered as of interest (Cattell, 1966; Joliffe, 1986, pp. 96-7 - see Table 4).

(This conclusion is also supported by an analysis of similarities between component loadings across age groups and studies 1 and 2 that is reported in connection with the second study.) In general, developmental trends in these results can be explained by the unfamiliarity of two of the work-related issues for the younger children (items 9 and 12), producing more mid-range and haphazard replies and thus reducing correlations with other items.

The second part of the analysis subjected respondents' rankings to two-way univariate analysis of variance, with their rankings of questions as dependent variables and age and sex as independent variables. The only significant effects were those of age on scores for questions 8, 9, 13, 14 (Ps $<$ .01) and 10 (P $<$ .05), (F (2, 234) = 10.75, 5.63, 9.24, 6.13, 4.13, respectively). The orthogonal component for linear trend with respect to age was significant for questions 8, 9, 13, 14 (Ps $<$ .01), (F (1,234) = 16.26, 14.79, 17.01, 8.37, respectively). This trend component approached significance for question 10 (P = .06). Inspection of means showed that in all cases respondents' scores decreased with age, indicating decreased preference for control by authority in these situations.

Further discussion of these results is deferred until results from the second study have been described.

STUDY 2

To obtain a more representative sample, the second study was a repeat of the first, with respondents recruited by personal approach in Melbourne City Square. The socioeconomic status of the sample was assessed by scoring father's occupation using the ANU 2 scale of Broom et al. (1976), which is a widely used Australian measure of SES. The sample had a mean of 511 and a standard deviation of 117, which compares with the claimed population mean of 500 and standard deviation of 100 for the measure.

A slight alteration in the criterion for a minimum allowable value of the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was adopted in the principal component analyses, as for the 19-21 year age group the value of .69 was achieved by removing items 3, 8, 9, 13 and 16, but removing the next indicated item, item 14, did not improve this and items 1 and 15 then tied on the removal criterion and their removal jumped the KMO value to .80. For consistency a KMO value of .69 was also accepted for the 12-13 year olds in this study. Strict adherence to the .70 criterion would have necessitated the removal of item 13 for the 12-13s. Removal of item 14 for the 19-21 year olds and item 13 for the 12-13 year olds had little influence on loadings for the first component and only a slight influence on those for the second in each case, though the latter caused the eigenvalue of the third component to fall below 1.0.

Results of principal component analysis using the .69 criterion were similar to study 1, except that item 9 was removed from the analysis for all age groups, item 11 was removed for the youngest age group and item 13 was included for the two younger age groups (see Tables 1-6).

A plot of total variance accounted for by each component against component number once again indicated that the scree components begin at the second component at all ages. It was of interest to know if items have similar loadings on the first component across age groups and studies 1 and 2. This was investigated by correlating the loadings for items for all possible pairs of the six first components identified. These correlations were positive and greater than .77 and their one-tailed significance was $P < .001$ except for two cases in which $P < .01$. A similar analysis was undertaken for the six second components identified. Only one correlation between pairs of such components was significant using a one-tailed test, that between those from the 12-13 and 15-16 year groups from study 2 ($P < .01$). As fifteeen tests were carried out here and six of the correlations for second components were negative, this may well be a type 1 error. In summary, this analysis supports the idea that there are similarities between the first components at all ages in both studies and does not provide sufficient evidence to reject the view that the scree components begin at the second component.

The findings from the component analyses broadly confirm those of the first study, indicating they are robust with respect to the Australian population. Although item 13 was retained in the analysis for the 12-13s and 15-16s in study 2, it only loads .15 and -.23 on this component for these groups. Thus items 3, 8, 13, and 16 had consistently weak relations with the first component at all ages in both studies. Items 9 and 14 had rather weak relations to the first component in the two studies, only loading moderately on this component at the 19-21 year age range in one study each. Items 11 and 12 loaded substantially on the first component at

the two older age ranges, but dropped out of the analysis for the youngest group either in the second study only (item 11) or in both studies (item 12). Items with consistently substantial relations to the first component at all ages in both studies were items 1, 2, 4, 5, 6, 7, 10 and 15.

General surveys of social attitudes covering control issues in English-speaking countries have usually found at least two main orthogonal factors (Eysenck, 1954; Eysenck and Eysenck, 1985; Bales, 1970). Eysenck calls the factor orthogonal to the left-right dimension of politics one of tough versus tender mindedness. Such general surveys have, however, usually taken in a much wider range of issues than those surveyed here. In particular, many of the items in these surveys that load most heavily on the tough-tender factor relate to the sanctions used in maintaining control in the areas of national defence and crime (e.g. pacifism and capital punishment), which were not issues addressed here. This probably accounts for the absence of a reliable second component in the component analyses reported from the present studies.

It is plausible to think that individuals assign control to authority or subordinates depending on their perception of the way the cost-benefit ratio for the actors and other affected parties changes with such assignment. (Further evidence for such an analysis is reported in connection with studies 3 and 4, which showed that human benefits figure very strongly in justifications offered for such judgements.) Some respondents probably assign different weights to the costs and benefits experienced by authorities and subordinates in deriving such cost-benefit functions. Items that load strongly on the first component (we can call this control ideology) might be: those where such weightings are of

substantial importance in deriving cost-benefit curves (weighting differential); or those for which some individuals see all parties as more likely to benefit through authority control, while others see all parties as more likely to benefit through subordinate control (net outcome differential); or items where both factors are operating. Inspection of items that load substantially on the first component at all ages in both studies (1, 2, 4, 5, 6, 7, 10 and 15) shows that, with the exception of item 10, they might plausibly derive their loadings on the control ideology component from either or both weighting and net outcome differential. This also applies to two items (11 and 12) that load strongly on the first component for the two older age groups, but drop out in at least one of the studies for the youngest age group. For item 10, on work safety, the effect of weighting differential alone is harder to predict. Assuming the item is mainly about costs, then the result of application of weighting differential depends on the heights and shapes of the assumed curves of costs for workers and management against degree of authority control, which are unknown.

Items that do not load appreciably on the first component at any age (3, 8, 13, 16) appear to show either an absence of the potential for both weighting and net outcome differential (item 13), or an absence of the potential for net outcome differential (items 3, 8), or evoked some confusion (item 16). Both pilot studies and studies 3 and 4 showed that many interviewees felt they lacked knowledge to comment on the issue in item 16 (state rights versus federal rights) and so offered a mid-range response (the status quo). It is hard for most interviewees to fit item 13 (about cabinet decision-making) into the mould of their ideas about the

role of authorities and subordinates in society and thus to assign differential weightings to the costs and benefits accruing to the two groups discussed in the question or to ascertain which assignment will favour their preferred groups in the wider society. At the same time, it is likely to be widely assumed that both parties (Prime Minister and ministers) are equally capable of making decisions. Inspection of item 3 suggests that in this case the child will bear the brunt of costs, but there is likely to be general agreement among interviewees that children of 6 years old are not competent to take decisions on this matter (riding a bicycle on the road). This item scored the highest mean authority score, ranging from 2.63 to 2.69, at all ages in both studies 1 and 2. For item 8, as for items 5, 6 and 7, the teacher's interests and adult-centered aims for the child are likely to be rather different from the child's interests, conceived as child-centered aims. However, interviewees may be generally in agreement that, in this situation (choosing what topics to write about and which books to read), the child is competent to take such a decision. This item has the third lowest authority control rating at all ages in both studies, except for the 15-16s in study 2, where it had the second lowest. Its mean score ranged from 1.90 to 2.23.

There is thus some preliminary indication, from the behaviour of items 3 and 8, that net outcome differential is more important than weighting differential in producing individual differences along the control ideology dimension. This suggestion would repay further investigation.

Respondents' rankings of items in study 2 were again subjected to univariate two-way analyses of variance, with rankings of questions as the dependent variables and age and sex as independent variables. The only

significant effects were those of age on scores for questions 8, 9, 13 (Ps < .01) and 10 and 14 (P < .05, F (2,234) = 12.26, 8.19, 10.32, 3.33, 4.16, respectively). The orthogonal component for linear trend with respect to age was significant for questions 8, 9, 13 (Ps .01), (F (1,234) = 13.27, 14.61, 10.82 respectively). This trend component approached significance for questions 10 and 14 (Ps = .07, .053). Inspection of means showed that in all cases scores decreased with age, indicating decreased preference for control by authority in these situations. Thus items 8, 9 and 13 showed consistently significant developmental trends in the first two studies, but 10 and 14 also showed significant effects of age and linear trends that at least approached significance in both studies.

The five items that show persistent indications of significant developmental trends to less authority control with age (8, 9, 10, 13, 14) were among the seven items with the lowest mean scores for control by authority at all ages in both studies. While scores on these items decrease with age, those for other items remain relatively constant.

We might expect that with increasing cognitive maturity and knowledge, older adolescents are able to construct more differentiated cost-benefit curves of the kind discussed earlier for different situations, thus encouraging a wider range of assignments of control along the authority-subordinate continuum. It appears that in the situations proposed to respondents in this study, the younger adolescents' cost-benefit curves cluster in the authority-leaning part of the continuum, while older adolescents move those curve-maxima that are already towards the subordinate-favouring end of the spectrum further in this direction, but they don't shift those at the authority-leaning end of the continuum much.

This might be because they now assign more weight to the interests of subordinates, or because they now know more about the likely cost-benefit results of different degrees of authority and subordinate control in particular situations. As many items for which inspection indicates a likely weighting differential if weightings are applied (especially items 1, 2, 4, 5, 6, 7, 8, 9, 11, 12 and 15) do not show developmental trends, we may rule out the first explanation. It is likely that the reason items showing developmental trends were among those showing the lowest authority score means at all ages is that the cognitive development necessary to perceive that for some situations there are benefits for all parties in a degree of subordinate control have already begun to influence scores on these items at 12-13 years.

STUDY 3

The third study primarily looked at the relation between judgements made about who should control decision-making in the situations studied in the first two studies and justifications for such judgements.

Analysis of the literature on the justification of moral judgements suggests that such relations as have been identified between types of justifications for moral judgements and the content of such judgements are extremely problematic. There are six significant published methods of categorising justifications for moral judgements, which are those of Colby and Kohlberg (1987b) (known as standard issue scoring), Schrader et al. (1987), Eisenberg et al. (1983), Williams (1969), Davidson et al. (1983) and Langford and D'Cruz (1989). Both the theoretical assumptions about the justification-judgement relation underlying each of these methods and

empirical evidence on the relation obtained with the method will now be briefly discussed.

Kohlberg's most recent view of his stages (Colby and Kohlberg, 1987a), was that justifications for moral judgements form part of a general style of thinking about moral issues that corresponds to the interviewee's dominant stage of moral reasoning. This may be contaminated by at most reasoning from one neighbouring stage. Because in his stage analysis Kohlberg was primarily interested in the interviewee's level of reasoning he tried to devise categories for coding justifications that were independent of the content of judgements. Critics of his various methods of categorising justifications into stages have, with good grounds, alleged that the way justifications are coded in his methods has in fact taken the content of judgements into account (Trainer, 1982, pp. 32-7; Forsyth and Scott, 1984; Langford and Claydon, 1989). Although most studies using Kohlbergian measures fail to provide an independent assessment of judgement content, one by Kaplan (1988) showed that the Kohlbergian DIT measure of justification preference was associated with judgement content, such that those who gave more 'moralistic' judgements scored at higher levels on the DIT. The probability that Kohlbergian stage measures confound judgement content and type of justification in a measure that is supposedly one of justification alone means, however, that the relation demonstrated by Kaplan may be an artefact of this confounding.

Schrader et al. (1987) (see also Tappan et al., 1987) have published a version of Kohlbergian scoring that assigns replies to Type A or Type B within stages, the former indicating heteronymous and the latter autonomous reasoning. This is also a difficult measure to interpret as one of the

eight criteria used in assigning replies on a dilemma to types is judgement content (called choice). Both judgements and justifications are combined to arrive at a single overall type assignment for replies to a dilemma. As for many respondents every judgement will be accompanied by at most two or three justifications that are then assigned using the other criteria, the net effect is to give judgement content a large role in assigning replies to types. This mixed use of judgement and justification content is unnecessary and unjustified.

The method of categorising justifications of Eisenberg et al. (1983) suffers from some of the same difficulties as standard issue scoring, apparently confounding content of judgement and justification type as well as requiring commitment to the Kohlbergian theory that justifications can be assigned to stages. Unlike standard issue scoring, it also requires considerable subjective interpretation of context in order to assign replies. Studies relating justifications to the content of judgements using the method have not been reported.

The method of Williams (1969) can be criticised as a method of categorising justifications from Kohlbergian interviews (and, it became clear in pilot studies, from the interviews run in this study) because it lacks categories to assign some kinds of common replies, particularly those that use a rule to justify another one (replies Colby and Kohlberg, 1987a call 'modal'). Williams's own interview technique is seriously flawed as it repeatedly uses the question 'Who told you that?', thus encouraging one particular type of reply. The scoring method also appears to confound the content of judgements with justification types. There has been no study of the judgement-justification relation using the method.

The group working with Turiel have reported a number of studies using the Davidson et al. measure (Davidson et al., 1983; Turiel, 1983; Tisak and Turiel, 1984; Arsenio and Ford, 1985; Tisak and Ford, 1986). Despite the continued commitment of this group to Kohlberg's theory, their method of coding justifications is radically different from that of Kohlberg, distinguishing much more sharply between justification type and content of judgement than Kohlberg and not assigning justifications to stages. Unlike Kohlberg's method of assigning replies to stages by matching them with the very large array of 'criterion judgements' provided in Colby and Kohlberg (1987b), they assign justifications to categories on the basis of definitions of the categories, a preferable procedure as it adds to the face validity of the categorisation. Two defects of their method are that it too has no category corresponding to rules used as justifications; and their method has no rule to assign replies containing more than one kind of justification to a category. None of the studies reported using this method of categorising justifications has investigated relations between justification types and judgement content.

The method of categorising justifications of Langford and D'Cruz (1989) claims to overcome many of the defects of the other methods: it does not confound judgement content with justification type; it assigns justifications to categories using category definitions rather than either subjective interpretation of context or specimen criterion judgements; it contains a category for rules used as justifications; it allows unambiguous assignment of replies containing more than one element of justification by means of the rule that more theoretical elements dominate more descriptive ones in assigning replies to categories. However, none of the studies

reported using this method have shown any connection between justification type and content of judgements (Langford and D'Cruz, 1989; Langford and Claydon, 1989).

Thus existing methods of categorising justifications either unintentionally confound judgement content and justification types (standard issue scoring; Williams, 1969; Eisenberg et al., 1983); or they explicitly confound judgement content with justification type (Schrader et al., 1987); or they analyse the forms of justifications with no attempt to score aspects of justification content likely to relate to judgement content (Davidson et al., 1983; Langford and D'Cruz, 1989). It was desired to use a method of analysing justification types that would be likely to highlight relations between their content and that of judgements. It also seemed desirable to avoid the confusion and confounding inherent in the measure of Schrader et al. (1987). It was therefore decided to devise an adaptation of the method of Langford and D'Cruz (1989), that would focus on the contents of justifications likely to be related to judgement content.

Some kinds of justifications normally have a logical relation with the content of the judgement they intend to justify. Rules used to justify judgements ('modal' justifications) contain the content of the judgement being justified, as in 'You should always give workers a say in how they work' as a justification for workers having a say in meeting safety requirements. Justifications pointing to human benefits sometimes specify a connection by stating what the benefits of a choice will be. Other justifications pointing to human benefits do not refer to the content of the judgement. One common kind of justification in the tasks studied here identified in pilot studies is that the choice mentioned will promote the

efficient achievement or choice of goals, which bears no logical relation to a judgement in favour of authority or in favour of subordinates. In other cases justifications provide evidence about costs and benefits that needs to be evaluated to reach a decision, but tends to favour a choice other than the one chosen. Irrelevant justifications also occur.

Despite the lack of evidence of a justification-judgement relation using coding methods that do not confound justification type with judgement content, it was anticipated that using a method focussing on logical connections of the kind just discussed there would be some relation. Attention was directed to the extent and nature of this relation. Developmental trends and individual differences in justifications corresponding to those in judgements were also of interest.

Method

The third study was a repeat of the first using half the number of respondents, with tape recorded verbal interview rather than written questionnaire and asking for justifications of the judgements made about the scale items. Half the interviews were conducted by one interviewer and half by another, both interviewers being female. Respondents were again selected using the methods of the first study, coming from two high schools and two technical schools in the Melbourne metropolitan region and from students at La Trobe University. The interviewer read out the questions, while the interviewee also had a written sheet containing them. Interviewees were asked to reply verbally with their choices in the choice section of each question. After the first two sections of the interview and again after the second two sections, the interviewee was asked to compare

the items in each section for which they had suggested authority should play the greatest role with those for which they had suggested it play the least role and to explain their reasons for giving authority a different role in the two groups of questions. The interviewer then asked why any intermediate rankings had been given.

Justifications for judgements were categorised as follows. Descriptive rules were divided into two categories: simple descriptive rules and rules said to be rights. Thus the reply that 'Parents should make the choice about this' is a simple descriptive rule, while the reply that 'Parents have the right to choose here' is a rule said to be a right. Naturalistic justifications are those that assert in some way that 'this is the way things happen'. Within the naturalistic type were two categories: justifications based on the fact that certain people think a particular way of making a decision is right; those based on the idea that people normally do make decisions in a certain way. Theoretical justifications are those that offer some further explanation of the reasons we ought to do something. Within the theoretical type were five categories, all based on improving the wellbeing of individuals or groups or the achievement or choice of goals. These were: (W1) justifications based on improving the wellbeing of subordinates; (W2) those based on improving the wellbeing of authorities; (W3) those based on the idea that by doing things this way we will better achieve the goals of the activity in question, such as production in a factory or education in a school; (W4) those based on finding the best way to choose or readjust such goals, such justifications being most common in answers about government decisions; (W5) those based

on the idea that by doing this we will develop the decision-making capacities of subordinates. Religious justifications were negligible.

Among theoretical justifications, six subcategories were identified within the theoretical categories listed above that provide logical justification for giving a greater degree of control to subordinates (group S justifications). These were: (W1.1) by doing this subordinates will be able to look after their own interests; (W3.1) goals will be better achieved through the knowledge and/or motivation of subordinates; (W3.4) goals will be better achieved by avoiding the folly and/or self-interest of authorities; (W4.1) goals will be better chosen through the knowledge and/or motivation of subordinates; (W4.4) goals will be better chosen by avoiding the folly and/or self interest of authorities; (W5) this will develop the decision-making capacities of subordinates. Seven subcategories of theoretical justifications were identified that provide logical justification for giving a greater degree of control to authorities (group A justifications). These were: (W1.2) by doing this authorities will look after the interests of subordinates; (W1.3) by doing this we can avoid the folly of subordinates in damaging their own interests; (W2.1) this will enable authorities to look after their own interests; (W3.2) goals will be better achieved through the knowledge and/or motivation of authorities; (W3.3) goals will be better achieved through avoiding the folly and/or self-interest of subordinates; (W4.2) goals will be better chosen through the knowledge and/or motivation of authorities; (W4.3) goals will be better chosen by avoiding the folly and/or self-interest of subordinates.

Inter-rater reliability studies for the method of categorising justifications of Langford and D'Cruz (1989) have found between 81 and 86

percent agreement between pairs of raters who have had about 8 hours training in the method (Langford and D'Cruz, 1989; Langford and Claydon, 1989). However, experience has shown that a rater with much longer experience can achieve more accurate scoring. This also seemed likely to hold true for the adaptation of this method used here. As no strong theoretical predictions had been made, the disadvantage of inaccurate scoring by raters with relatively brief training seemed likely to outweigh any possibility of rater bias and so transcripts were scored for justification types by the author alone.

Results

The sample size was judged too small for principal component analysis of the rating scores for items, but brief details will be given of results from analysis of variance of these scores. Three-way univariate analyses of variance with respondents' rankings of questions as the dependent variables and age, sex and interviewer as the independent variables found that the only significant effects were those of age on scores for questions 8, 9, 13 ($Ps < .01$, $F(2, 108) = 9.63, 8.74, 7.16$, respectively). These effects approached significance for item 14 ($P = .07$). The orthogonal component for linear trend with respect to age was significant for questions 8, 9 ($F(1, 108) = 12.21, 10.63$, $Ps < .01$) and approached significance for question 13 ($P = .07$).

Only 12 percent of justifications across all groups were of the descriptive or naturalistic types, which was considerably less than for a comparable sample using a Kohlberg-type interview (Langford and D'Cruz, 1989). For this reason it was decided to concentrate analysis on

theoretical justifications, which were predominantly from categories refering to the human benefits to be derived or costs to be avoided by assignment of control in a particular way.

Eighty seven percent of all theoretical justifications fell into either Group S or Group A. Ten percent, most of the remainder, stated the choice in question would result in more efficient achievement of or choice of goals without saying how. Each justification by each interviewee that fell into groups S or A was compared with the scale judgement for the corresponding question. Each scale judgement was scored as at the maximum in granting authority control within that respondent's replies for a section, or as being intermediate or at the minimum in this regard. The reason for comparing these derived aspects of the control judgements with justifications rather than the raw scores is that the justification questions asked interviewees to say why they thought some questions within a section called for more authority control than others. We can say that justifications correspond to judgements when we find Group A and Maximum Authority Score replies going together and when we find Group S and Minimum Authority scores going together. If we discount all Mean Authority Score replies and associated justifications (about 10 percent of judgements) then 79 percent of the remaining Group S or A justifications correspond to their scale judgements in this way for the 19-21 year group, while this figure is 81 percent for the 15-16 year group and 77 percent for the 12-13 year group.

The total score for each individual on all items that loaded positively at least .3 on the main component for their age group in the first study, plus four minus their score on item 15 was used as a rough index of an

individual's place on the dimension of control ideology identified by the first component in the first study. The ratio between the following scores in a respondent's replies was used as a means of assessing justifications along a dimension corresponding to control ideology: the sum of Group A justifications for all items loading at least .3 on the main component for their age group in the first study and Group S justifications for item 15; and the sum of Group S justifications for all items loading at least .3 on the main component for their age group in the first study and Group A justifications for item 15. The correlation between these indices of judgement and justification control ideology over the whole study was .72, ($P < .01$). As for judgements, preferences are not for justification of authority or subordinate control as such, but for the application of one of these types of justification to items loading positively on judgement control ideology and of the opposite type to item 15. The tendency to use the non-dominant type of justification in relation to the private enterprise issue (item 15) was most evident among those who scored 3 or 1 on this item. Of 42 individuals in the study who gave one or other of these scores on this item, 17 gave more non-dominant than dominant justifications from Groups S and A at this item, while 3 gave more dominant than non-dominant and 22 gave neither. About 40 percent of each of the subgroups just described gave non-specific efficiency justifications at item 15.

Items showing developmental trends in the first three studies (8, 9, 10, 13, 14) did not appear to attract different kinds of justifications from other items, probably because in only a small minority of cases did the contrasts asked about happen to involve comparisons between items in this group and other items. The ratio between the total number of Group S

and Group A justifications for these items for each interviewee appears to increase slightly with age, but analysis of variance treating this score as the dependent variable and age, sex and interviewer as independent variables revealed no significant effect of age or of the orthogonal component for linear trend with respect to age.

Discussion

These findings show that it is possible to subdivide the justification categories of Langford and D'Cruz (1989) in such a way that the subcategories show a connection to the content of judgements. The subdivision used here is one that is applicable to the area of control of decisions, but would need to be reworked to be applicable to other areas.

One plausible explanation for the findings that justifications are predominantly oriented to maximisation of human benefit and that there is a logical connection between many justifications and their corresponding judgements is that justifications elicited by the interview used here reflect the way cost-benefit curves are constructed for the situations asked about in the items. (This is somwhat reminiscent of Rest's view that the Kohlbergian stage analysis of justification types provides an index of the sources of information an interviewee is most likely to use in reaching a moral decision - Rest, 1979, 1883, 1986.) It is however unlikely that an individual's justifications provide anything more than a partial listing of the information needed to construct such curves.

Another explanation is provided by an extension of Trainer's (1982) tool kit theory, which says that the situations judged call up ideas

corresponding to justification types, that is either to the main categories of justification types or the subcategories of those types listed in the method section for this study. These ideas are then applied to the content of the judgement to produce a justification. In cases where there is a logical connection between justification and judgement this is manufactured after the justification type has been chosen. Thus an interviewee who decides to give a justification based on promoting human welfare and has judged that subordinates should play a large role in making a particular kind of choice will then try to think of some increase in human welfare that is appropriate to their choice.

However, some interviewees give the appearance of serving up well-established views to the interviewer, while others take some time to think through the issues involved in making a choice. It is thus possible that some interviewees in this kind of interview are operating in the way the second theory predicts, having partly or largely forgotten why they came to hold their views, while others think out a judgement on the spot and are able to comment on information that influenced their judgement. Individual differences of this kind merit further investigation.

The finding that justification types and judgement content are related when the former are assessed by the methods adopted here is also of significance for investigating the relations between moral reasoning and moral behaviour. Within the tradition of research into this connection that uses Kohlbergian stages (for reviews see Kurtines and Greif, 1974; Broughton, 1975; Blasi, 1980; Siegal, 1980; Cortese, 1984), as well as within Eisenberg's extension of that tradition (Eisenberg, 1986; Eisenberg et al., 1987), attempts are made to connect a categorisation of

justification types into stages with behaviour when, at least according to the theory on which the research is based, there is no connection between justification types and the content of judgements. Kohlberg himself sometimes abetted this enterprise (see Cortese, 1984) and sometimes, more logically, opposed it (Colby and Kohlberg, 1987a). It is more plausible to think that indices of judgement content and indices of justification types that relate closely to content will be of greater help in assessing the relation between moral reasoning and behaviour. Whether positive welfare justifications for a choice (maximising welfare) are more likely to be associated with carrying out the suggested course of action in practice than negative reasons (avoiding harm); whether justifications having logical connection with the judgement are more likely to be associated with carrying out the suggested course of action; and whether interviewees who trot out established views (and thus respond quickly) are more likely to do what they say are all issues that could be investigated using the techniques described here. This approach would allow independent assessment of the contributions of judgements and content-related justification types to behaviour, unlike the Kohlbergian content-related index of Schrader et al. (1987) and Tappan et al. (1987), which was advocated by Kohlberg for investigation of the moral reasoning-moral behaviour link, but which confounds justification type and judgement content.

STUDY 4

In order to verify the results of the third study on a more representative sample, the fourth study repeated the third with interviewees recruited by personal approach in Melbourne City Square. The socioeconomic status of father's occupation was assessed using the ANU 2

scale. The sample mean was 515 and its standard deviation 108, which compare with the claimed population values of 500 and 100.

Three-way univariate analyses of variance with respondents' rankings of questions as the dependent variables and age, sex and interviewer as the independent variables found that the only significant effects were those of age on scores for questions 8, 9, 13 (Ps $<$ .05, F (2, 108) = respectively). The orthogonal component for linear trend with respect to age was significant for questions 8, 9 and 13 ($P < .05$). Relations between judgements and justifications were similar to those in study 3, with 81 percent of Group S and Group A justifications corresponding to their judgement ratings for the 19-21 year group, while this figure was 78 percent for the 15-16 year age group and 76 percent for the 12-13 year group. The correlation between the indices of judgement control ideology and justification control ideology was .69 ($P < .01$). Thus the findings from study 4 confirm that those from study 3 are robust with respect to the Australian population.

CONCLUDING DISCUSSION

The four studies show that the multidimensional model of the development of moral reasoning outlined in the initial introduction requires elaboration. Only two dimensions relating to autonomy have previously been identified by the model, both unidirectional: one relating to the content of judgements that says that for some situations children become less likely to assign the power to make decisions to those in authority as they get older; and one relating to justifications that specifies a shift within those refering to beliefs of self or others away from authority towards self or equals. The present studies have confirmed

the existence of the first of these dimensions and have added the suggestion that situations for which such shifts are most marked during adolescence tend to be those where a greater degree of control is assigned to subordinates throughout this period. They have also shown that there is a further dimension of individual differences, termed control ideology, that influences judgements about a different, though overlapping, set of situations. As neither preadolescent nor longitudinal data is presently available on this dimension, it is not clear if this is properly termed one involving individuation or directional shift or simply relates to individual differences that emerge almost as soon as the relevant judgements can be made.

The second two studies also identified a dimension of individual differences in justification types, exhibited on items which index judgement control ideology, such that justifications offered vary with judgement control ideology.

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TABLE 1
CORRELATION MATRIX FOR ITEMS 1-16 FOR 19-21 YEAR OLDS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1		.35	.24	.50	-.01	.25	.47	.08	.17	.17	.20	.30	-.25	.06	-.24	-.01
2	.46		.24	.43	.55	.50	.36	.22	.55	.09	.44	.45	.00	.00	-.47	-.20
3	.17	.24		.17	.21	.17	.15	.06	.21	.07	.20	.12	-.01	.08	-.12	.25
4	.61	.51	.17		.40	.53	.58	-.09	.30	.30	.59	.37	-.24	-.24	-.38	.06
5	.40	.66	.12	.61		.58	.27	-.03	.54	.41	.61	.77	-.03	.16	-.60	.13
6	.49	.70	.06	.57	.67		.47	.20	.52	.44	.53	.61	-.06	.02	-.51	.08
7	.52	.41	.19	.67	.52	.59		-.10	.34	.34	.42	.49	-.11	.01	-.12	.00
8	.20	-.10	.24	.15	.24	.11	.12		.22	.25	-.04	.22	.18	.22	-.13	-.22
9	.32	.29	.23	.20	.10	.21	.02	.26		.38	.48	.51	-.10	.12	-.17	-.26
10	.36	.11	.17	.40	.54	.41	.57	.24	.14		.42	.53	-.23	.25	-.26	-.15
11	.42	.56	.06	.77	.64	.62	.58	-.03	.29	.45		.71	.07	.09	-.35	-.02
12	.64	.52	.19	.56	.80	.68	.73	.17	.30	.66	.63		-.13	.35	-.46	.06
13	.05	.31	-.10	.03	.19	.18	-.16	.11	.35	-.12	.20	.01		.15	-.14	-.04
14	.29	.20	.14	.13	.42	.24	.37	.04	.31	.43	.19	.50	.16		-.17	.20
15	-.68	-.48	-.20	-.57	-.66	-.57	-.36	-.17	-.16	-.31	-.40	-.64	-.27	-.28		-.14
16	.14	-.12	.00	.18	.20	.16	.12	.00	-.12	-.06	.02	.17	-.06	.09	-.25	

Correlations from study 1 are shown in the upper right half of the matrix, those from study 2 in the lower left.

TABLE 2
CORRELATION MATRIX FOR ITEMS 1-16 FOR 15-16 YEAR OLDS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1		.38	.12	.67	.21	.43	.60	.22	-.21	.43	.45	.42	-.18	.20	-.49	.11
2	.08		.17	.49	.67	.59	.54	-.03	.30	.25	.56	.52	-.19	-.08	-.40	-.15
3	.16	.16		.16	.20	.09	.20	.14	.25	.23	.19	.11	-.03	.00	-.11	.11
4	.26	.47	.27		.49	.56	.65	.17	-.20	.49	.74	.40	-.11	-.10	-.60	.13
5	-.12	.22	.19	.08		.60	.48	.21	.29	.51	.64	.80	-.20	.17	-.51	.07
6	.20	.49	.11	.30	.52		.55	.11	.15	.52	.64	.62	-.18	.15	-.50	.02
7	.32	.67	.13	.37	.00	.44		.06	.00	.55	.58	.60	-.24	.06	-.41	.05
8	.23	.10	.15	.18	.12	.20	.16		.09	.24	.10	.15	.18	.11	-.14	.03
9	.26	.08	.22	.09	.13	.03	-.04	.22		.10	-.12	.28	-.11	.13	.18	-.11
10	.22	.08	.21	.53	.23	.22	.13	.26	.30		.53	.58	-.08	.14	-.43	-.03
11	.43	.46	.02	.35	.32	.55	.54	.18	.15	.19		.62	.01	.11	-.55	.11
12	.40	.36	.07	.05	.33	.45	.59	.19	.16	.21	.70		-.11	.20	-.44	.05
13	-.27	.34	.20	.16	.13	.16	.08	-.03	.06	-.08	.04	-.16		.04	-.12	.02
14	.23	-.05	-.10	-.03	.24	.19	.00	.02	.17	.17	.19	.13	.05		-.24	.17
15	-.30	-.57	-.12	-.44	-.13	-.41	-.51	-.12	.09	-.08	-.57	-.45	-.17	-.26		.15
16	.14	-.19	.11	.14	.19	.12	.05	-.03	-.15	-.03	.15	.19	-.02	.15	-.17	

Correlations from study 1 are shown in the upper right half of the matrix, those from study 2 in the lower left.

TABLE 3
CORRELATION MATRIX FOR ITEMS 1-16 FOR 12-13 YEAR OLDS

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1		.16	.18	.58	.59	.23	.79	.22-	.05	.35	.71	.11-	.15	.29-	.42	.21
2	.29		.25	.65	.37	.48	.41-	.01-	.02	.39	.23	.20-	.16-	.01-	.37-	.19
3	.12	.24		.23	.11	.16	.23	.16	.09	.20	.18	.11-	.07-	.07-	.22	.07
4	.68	.39	.21		.36	.47	.57	.17-	.43	.63	.53	.11-	.05-	.01-	.72	.23
5	.19	.56	.18	.56		.23	.66	.24	.39	.29	.52	.16-	.20	.18-	.25	.03
6	.32	.68	.19	.55	.66		.14	.13-	.09	.67	.08	.11-	.14	.22-	.54	.09
7	.78	.47	.20	.69	.51	.53		.25	.08	.30	.71	.17-	.22	.12-	.37	.14
8	.24-	.11	.18	.18	.06	.16	.24		.13	.17	.22	.07	.14	.15-	.24	.03
9	.03	.11	.08	.09	.12	.13	.20	.06		-.13-	.13	.05-	.16	.07	.39	.19
10	.31	.15	.08	.41	.64	.50	.52	.11	.25		.16	.19-	.01	.29-	.73-	.01
11	.27	.25	.06	.31	.23	.25	.13	.13	.08	.24		.21	.03	.12-	.35	.08
12	.11	.25	.19	.18	.13	.07	.03	.02	.13	.05	.07		-.28	.10-	.10	.05
13-	.38-	.18-	.26-	.17-	.16-	.03-	.24	.23-	.11-	.03-	.02-	.29		.00-	.17	.00
14	.24	.17	.17	.16	.16	.29	.11	.15	.19	.12	.18	.07-	.01		-.26	.27
15-	.45-	.31-	.09-	.61-	.51-	.55-	.55-	.16-	.07-	.58-	.26-	.17-	.06-	.11		-.15
16	.17	.01	.20	.14	.11	.09	.10	.10-	.12	.10	.12	.23-	.08	.22-	.13	

Correlations from study 1 are shown in the upper right half of the matrix, those from study 2 in the lower left.

TABLE 4
COMPONENT LOADINGS AND ACOUNTED VARIANCE FOR ITEMS 1-15 FOR 19-21 YEAR OLDS

	Study 1			Study 2	
Question	Comp. 1	Comp. 2	Comp. 3	Comp. 1	Comp. 2
1	.43	.54	.43	.72	-.09
2	.68	.15	-.36	.69	-.45
3					
4	.69	.55	-.04	.80	-.26
5	.79	-.36	-.32	.85	.01
6	.80	.03	-.12	.81	-.21
7	.62	.42	.38	.77	.20
8					
9	.67	-.13	-.06		
10	.57	-.26	.42	.63	.59
11	.78	-.04	-.03	.78	-.19
12	.85	-.28	.15	.90	.22
13					
14	.17	-.66	.52	.46	.65
15	-.61	.16	.31	-.73	.17
Percent of Variance	44	13	10	56	11

TABLE 5
COMPONENT LOADINGS AND ACCOUNTED VARIANCE FOR ITEMS 1-15
FOR 15-16 YEAR OLDS

	Study 1		Study 2			
Question	Comp. 1	Comp. 2	Comp. 1	Comp. 2	Comp. 3	Comp. 4
1	.65	-.46	.45	-.67	-.20	.04
2	.72	.30	.74	.39	-.24	-.13
3						
4	.80	-.38	.58	.12	-.40	.61
5	.79	.41	.38	.31	.78	.17
6	.80	.13	.72	.18	.35	.01
7	.79	-.10	.77	-.05	-.29	-.24
8						
9	.07	.88				
10	.70	.01	.36	-.18	.10	.82
11	.84	-.12	.83	-.16	.14	-.14
12	.80	.33	.72	-.35	.31	-.29
13			.15	.81	-.18	-.03
14						
15	-.69	.27	-.74	-.08	.25	.16
Percent of Variance	52	15	39	14	12	12

TABLE 6
COMPONENT LOADINGS AND ACCOUNTED VARIANCE FOR ITEMS 1-15
FOR 12-13 YEAR OLDS

	Study 1			Study 2		
Question	Comp. 1	Comp. 2	Comp. 3	Comp. 1	Comp. 2	Comp. 3
1	.77	.40	-.25	.68	-.60	-.26
2	.62	-.18	.37	.63	.08	.66
3						
4	.88	-.24	-.17	.82	-.16	-.17
5	.64	.55	.34	.77	.33	.24
6	.57	-.48	.44	.79	.32	.29
7	.77	.50	-.09	.85	-.26	-.14
8						
9	-.18	.59	.73			
10	.70	-.44	.27	.68	.31	-.32
11	.68	.44	-.39			
12						
13				-.23	.72	-.36
14						
15	-.76	.43	.10	-.75	-.22	.36
Percent of Variance	46	19	13	51	15	12